

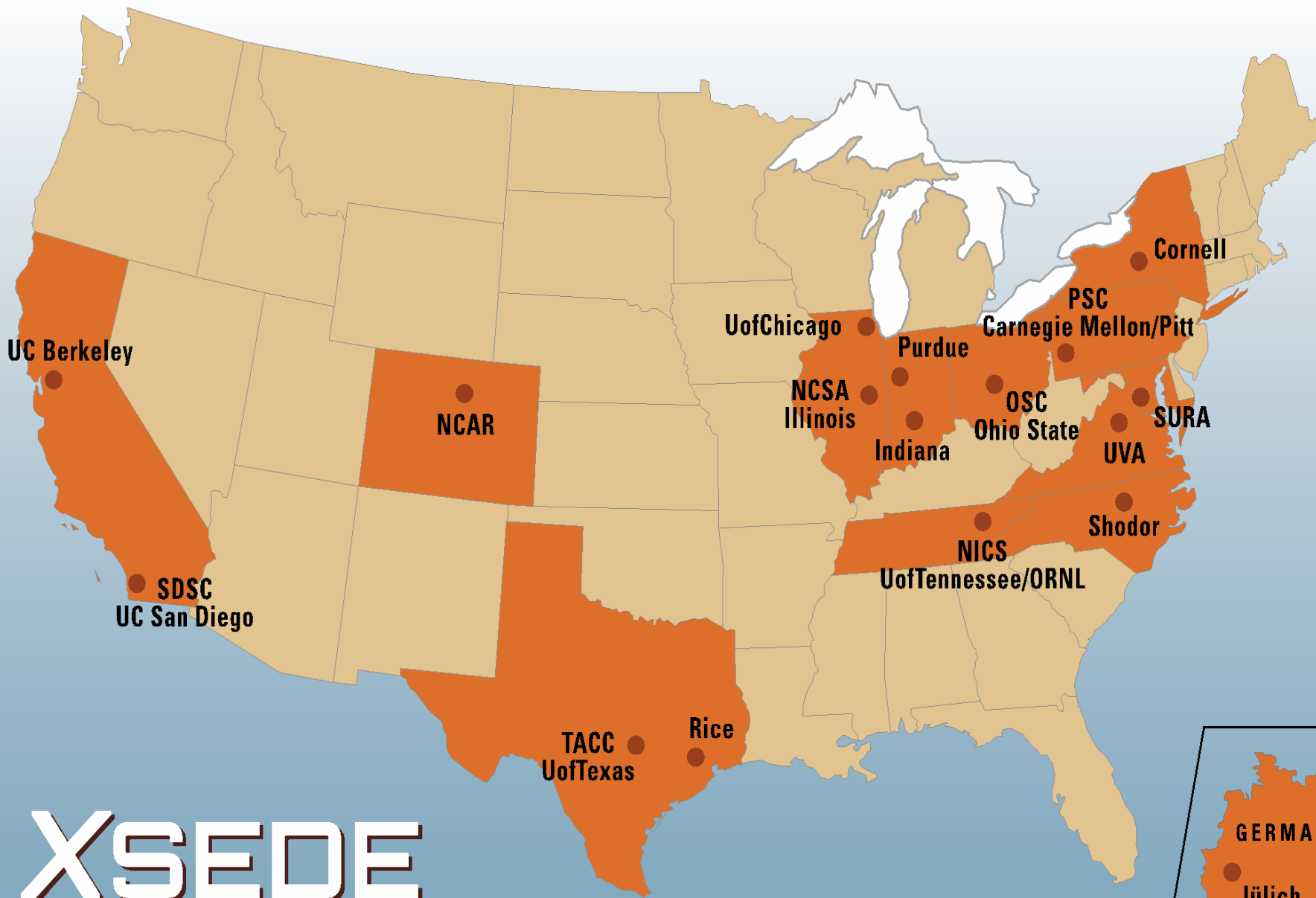


XSEDE Science Gateways

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XSEDE

Extreme Science and Engineering
Discovery Environment

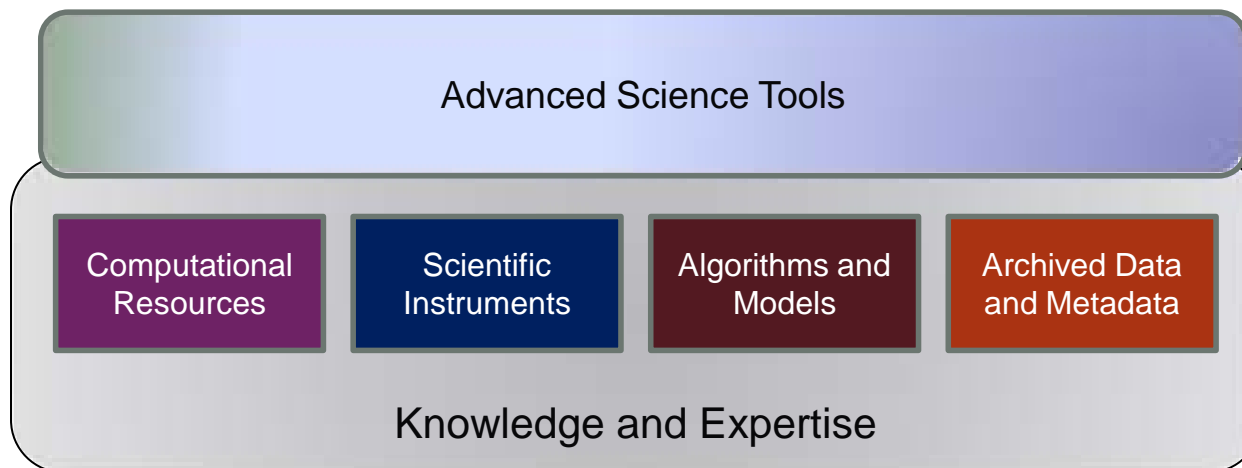


XSEDE

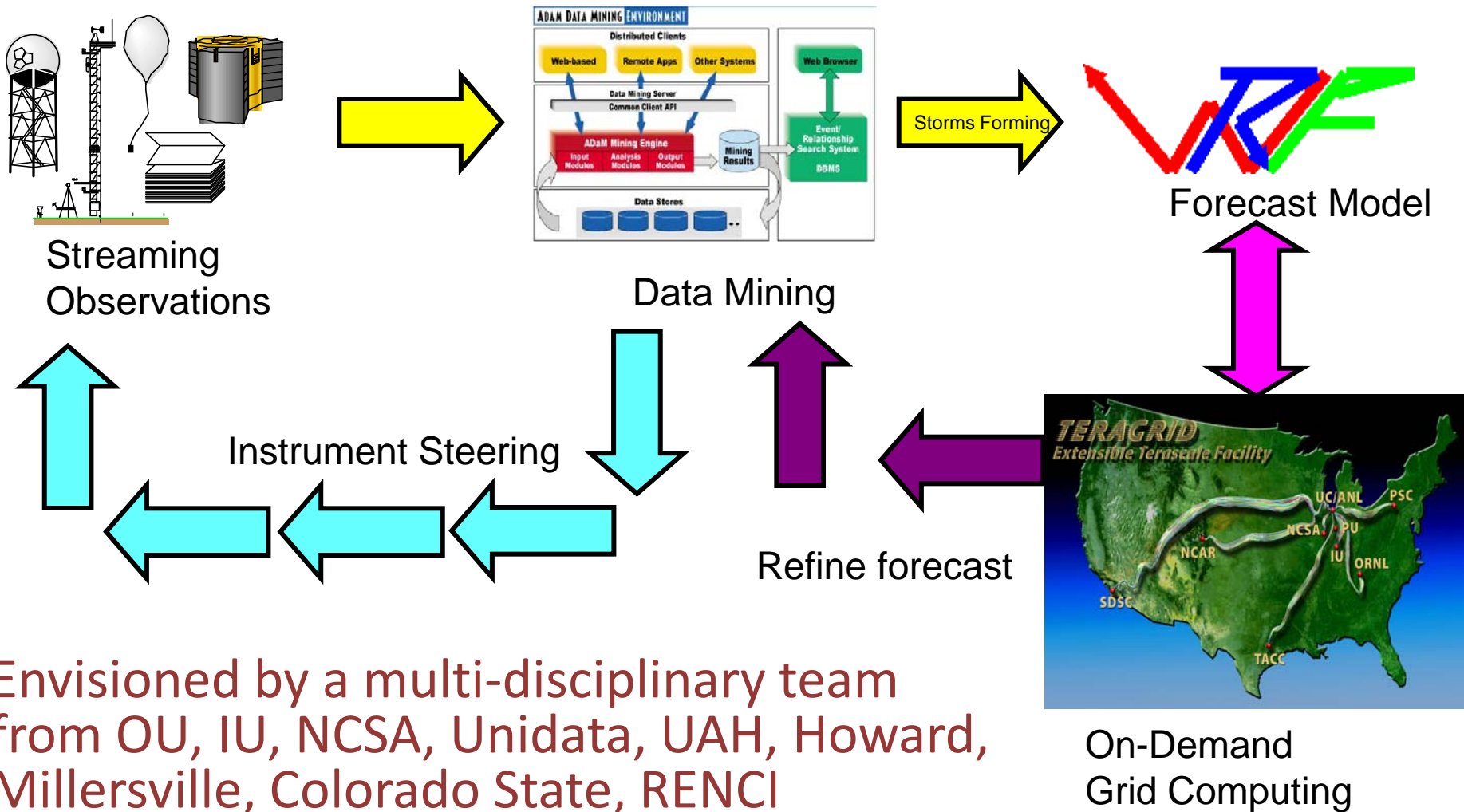
Extreme Science and Engineering
Discovery Environment



Science Gateways: Enabling & Democratizing Scientific Research



LEAD: an Integrated, Scalable Geosciences Framework

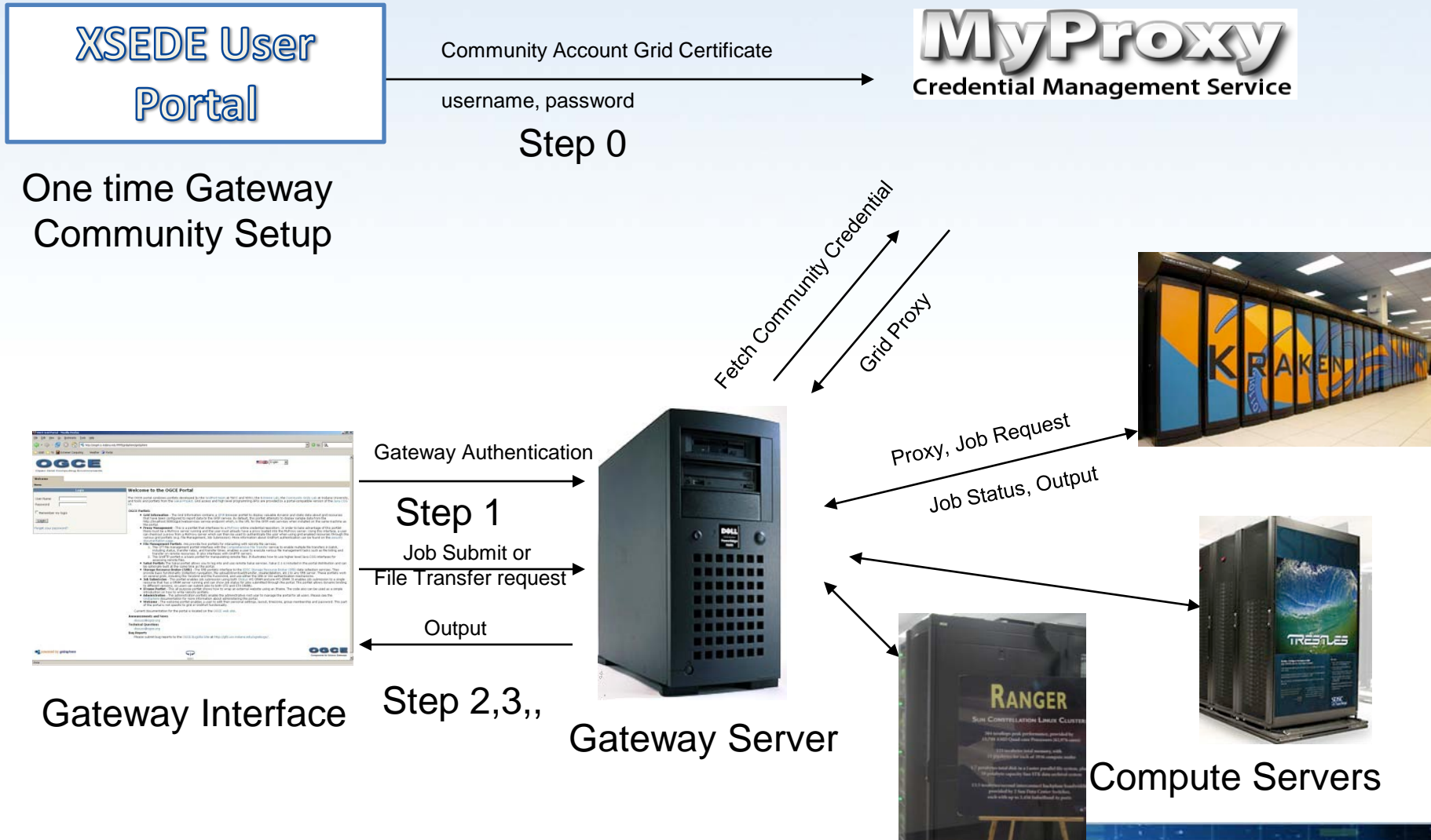


Envisioned by a multi-disciplinary team from OU, IU, NCSA, Unidata, UAH, Howard, Millersville, Colorado State, RENCI

Science gateway demonstration

- ParamChem Live demo.

Simplified Gateway Architecture



Anatomy of a Science Gateway

- Gateway User Interface
 - Web Portals
 - Desktop Clients
 - Social/ Collaboration Capabilities
- Security Infrastructure
- Analyses & Visualization Capabilities
- Workflow Execution Framework
 - Application Abstraction
 - Workflow construction & Enactment
 - Compute Resource Management
 - Scheduling
 - Messaging System
- Data Management
- Provenance Collection

Overview

A Science Gateway is a community-developed set of tools, applications, and data that are integrated via a portal or a suite of applications, usually in a graphical user interface, that is further customized to meet the needs of a specific community. Gateways enable entire communities of users associated with a common discipline to use national resources through a common interface that is configured for optimal use. Researchers can focus on their scientific goals and less on assembling the cyberinfrastructure they require. Gateways can also foster collaborations and the exchange of ideas among researchers.

How to Turn Your Project into a Science Gateway

1. Get an XSEDE allocation; Start-up and Educational allocations require only a one paragraph project description. For more information visit the [Allocations section](#) of the web site.
2. [Register your project as an XSEDE Gateway](#)
3. [Build a portal](#)
4. Set up your developer accounts by [Adding users to an existing allocation](#). Also, set up your Gateway

Science Gateways

[Overview](#)

[Gateway Listing](#)

[For PIs](#)

[For Developers](#)

XSEDE ECSS Science Gateways Program

- Mission/purpose

- Science Gateways enable communities of users associated with a common discipline to use computational resources through a familiar and simpler interface.
- The missions of the Extended Support for Science Gateway (ESSGW) Group is to provide Extended Collaborative Support to existing and new Scientific Communities in developing, enhancing and maintaining Science Gateways in effectively using XSEDE Computational Resources.
- Outreach to potential communities and help fostering new gateways.
- Engage the gateway community through forums & discussions.

ECSS Gateway Examples

- Implementation of new workflows for automation of scientific processes
- Incorporation of new visualization methods
- Innovative scheduling implementation
- Integration of XSEDE resources into a portal or Science Gateway
- Move data from gateway to XSEDE resources
- Bridge Campus Resources with XSEDE through a gateway

Be in the loop:

- gateways@xsede.org Mailing List
- Send email to majordomo@xsede.org
 - with "subscribe gateways" in the body of the message
- Email Suresh Marru (smarru@iu.edu) or Nancy Wilkins-Diehr (wilkinsn@sdsc.edu)